

PATENT
Atty. Dkt. APPM/005191.C1(Y1)/ISM/CORE/MCVD/PJS
Serial No. 10/792,323

In the Claims:

Please cancel claims 11, 18, and 20, without prejudice, and add new claim 21 as follows:

1. (Currently Amended) An apparatus for vaporizing a solid precursor, comprising:

a housing ~~defining~~ having an interior volume ~~having~~ and an inlet for receiving a carrier gas, wherein the interior volume is configured to receive a solid chemical precursor; and

at least two surfaces contained in the housing, wherein each of the at least two surfaces comprise a heating element ~~have the solid precursor applied thereto~~ and are spaced to allow passage flow of the carrier gas therebetween; ~~and at least one heating member contained in the housing, wherein the inlet is substantially perpendicular to the at least two surfaces.~~

2. (Original) The apparatus of claim 1, wherein the apparatus further comprises an outlet operably connected to a reaction chamber of a deposition chamber.

3. (Currently Amended) The apparatus of claim 2, wherein the at least two surfaces are selected from the group consisting of a baffle, a rod, a mesh, and a grating.

4. (Currently Amended) The apparatus of claim 1, wherein the at least two surfaces have a form selected from the group consisting of an s-shape, a linear shape, and a cone shape.

5. (Currently Amended) The apparatus of claim 3, wherein the at least two surfaces comprise ~~are formed of a material selected from the group consisting of~~ stainless steel and or ceramic.

6. (Currently Amended) The apparatus of claim 2, wherein the deposition

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chamber is selected from the group consisting of an atomic layer deposition ALD chamber, a chemical vapor deposition CVD chamber, and an evaporative coating chamber.

7. (Original) The apparatus of claim 6, wherein the solid precursor includes a tantalum-containing precursor or a tungsten-containing precursor.

8. (Currently Amended) An apparatus for vaporizing a solid precursor, comprising:

a housing ~~defining~~ having an interior volume, wherein the interior volume is configured to receive a solid chemical precursor; having

an inlet for receiving a carrier gas; and

an outlet for delivering the carrier gas and a vaporized solid precursor, ~~wherein the vaporized solid precursor originates~~ originating from the solid chemical precursor;

a first wall to support the inlet;

~~at least one surface~~ two surfaces contained in the housing ~~for application of the solid precursor, wherein the at least one surface is located on a second wall adjoining and substantially perpendicular to the first wall and the at least one surface is spaced to allow passage of the carrier gas; and~~

a heating member contained in each of the at least two surfaces housing.

9. (Original) The apparatus of claim 8, wherein the outlet is operably connected to a reaction chamber of a deposition chamber.

10. (Currently Amended) The apparatus of claim 9, wherein the at least two surfaces are ~~one surface is~~ selected from the group consisting of a baffle, a rod, a mesh, and a grating.

11. (Cancelled)

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12. (Currently Amended) The apparatus of claim 9, wherein the at least two surfaces have ~~one surface has~~ a form selected from the group consisting of an s-shape, a linear shape, and a cone shape.

13. (Currently Amended) The apparatus of claim 12, wherein the at least two surfaces comprise ~~one surface is formed of a material selected from the group consisting of~~ stainless steel and or ceramic.

14. (Currently Amended) The apparatus of claim 9, wherein the deposition chamber is selected from the group consisting of an atomic layer deposition ALD chamber, a chemical vapor deposition CVD chamber, and an evaporative coating chamber.

15. (Original) The apparatus of claim 14, wherein the solid precursor includes a tantalum-containing precursor or a tungsten-containing precursor.

16. (Currently Amended) An apparatus for vaporizing a solid tantalum-containing precursor, comprising:

a housing ~~defining~~ comprising an interior volume; ~~having~~

an inlet for receiving a carrier gas; and

an outlet for delivering the carrier gas and a vaporized solid precursor,

wherein the vaporized solid precursor originates from the solid tantalum-containing precursor;

at least two surfaces contained in the housing, wherein the at least two surfaces are configured to heat ~~have~~ the solid tantalum-containing precursor applied thereto and are spaced to allow passage of the carrier gas therebetween; and

at least one heating member contained in at least one wall of the housing, wherein the outlet is operably connected to a reaction chamber of a deposition chamber.

17. (Currently Amended) The apparatus of claim 16, wherein the at least two

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surfaces ~~is~~ are independently selected from the group consisting of a baffle, a rod, a mesh, and a grating.

18. (Cancelled)

19. (Currently Amended) The apparatus of claim ~~18~~ 16, wherein the deposition chamber is selected from the group consisting of an atomic layer deposition ALD chamber, a chemical vapor deposition CVD chamber, and an evaporative coating chamber.

20. (Cancelled)

21. (New) An apparatus for vaporizing a solid tantalum-containing precursor, comprising:

a housing having an interior volume configured to receive the solid tantalum-containing precursor;

an inlet for receiving a carrier gas;

at least two baffles in thermal communication with the solid tantalum-containing precursor, the at least two baffles spaced to allow passage of the carrier gas;

an outlet for delivering the carrier gas and a vapor originating from the solid tantalum-containing precursor, the outlet operably connected to an atomic layer deposition chamber; and

a heating member contained in each of the at least two baffles.